



Australian Bureau of Statistics

6265.0 - Underemployed Workers, Australia, Sep 2006

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Main Features

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ABOUT THIS PUBLICATION

This publication presents information about underemployed workers. The number of underemployed workers is an important component of underutilised labour resources in the economy, along with the number of unemployed and some people with marginal attachment to the labour force. Underemployed workers are part-time workers who want, and are available for, more hours of work than they currently have and full-time workers who worked part-time hours during the reference week for economic reasons. A range of information is presented on underemployed workers including the number of hours usually worked, number of preferred hours, steps taken to find work with more hours, and difficulties finding work with more hours.

The statistics in this publication were compiled from the Underemployed Workers Survey, conducted throughout Australia in September 2006 as a supplement to the Australian Bureau of Statistics (ABS) monthly Labour Force Survey (LFS).

Data from the survey relate to all employed people aged 15 years and over. People who worked less than 35 hours in the week prior to the survey (i.e. the reference week) and who would have preferred to work more hours, were asked about whether they were available to start work with more hours, whether they were looking for work with more hours, and their experience in looking for work with more hours. Other information sought included the duration of the current period of insufficient work and the number of extra hours preferred.

CHANGES IN THIS ISSUE

Table 1 is a new table for this issue. Due to interest in underutilised labour resources, it includes three measures of labour underutilisation: the unemployment rate, the underemployment rate and the labour underutilisation rate. A time series for 2000 to 2006 is provided. These are the same measures as published in [Australian Labour Market Statistics](#) (cat. no. 6105.0).

ROUNDING

As estimates have been rounded, discrepancies may occur between sums of the component items and totals.

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Labour Market Section on Canberra (02) 6252 7206.

Summary of Findings

SUMMARY OF FINDINGS

OVERVIEW

There were 10,290,000 employed people aged 15 years and over in September 2006. Of these:

- 576,400 (5.6%) usually worked part-time and would have preferred to work more hours
- 544,600 (5.3%) were underemployed workers, comprising:
 - 483,900 who usually worked part-time but would prefer more hours and were available to start work with more hours either in the reference week, or in the four weeks subsequent to the interview
 - 60,600 who usually worked full-time but worked part-time hours in the reference week due to economic reasons (being stood down, on short time, or having insufficient work). The majority (82%) of these were men.

Underemployed workers are an important component of underutilised labour resources in the economy, capturing a dimension of such resources not available from the unemployment rate alone. In September 2006 the underemployment rate (underemployed workers as a percentage of the total labour force) was 5.0%. When this is added to the unemployment rate for the same period (4.8%), the result is the labour force underutilisation rate (9.8%), which provides a broader indication of the proportion of the population affected by labour underutilisation. The labour force underutilisation rate has continued to decrease from 12.6% in September 2001 to 9.8% in September 2006.

PART-TIME WORKERS WHO WOULD PREFER MORE HOURS

In September 2006, there were 2,903,200 part-time workers. Of these, 576,400 (20%) would have preferred to work more hours compared with 612,000 (22%) in September 2005. The number of female part-time workers who would prefer to work more hours has decreased from 401,200 (20%) in September 2005 to 356,100 (17%) in September 2006. Over this period the proportion of men who would prefer to work more hours has remained fairly

constant (26% and 27% respectively).

Of the part-time workers who would prefer to work more hours, the majority (57%) would prefer to work full-time. For men, the proportion who preferred to work full-time was 71% compared with 48% for women.

UNDEREMPLOYED PART-TIME WORKERS

Underemployed part-time workers are people who usually work less than 35 hours a week, would prefer to work more hours and are available to work more hours. Of the 483,900 underemployed part-time workers, 57% (274,600) had looked for work with more hours at some time during the four weeks up to the end of the reference week.

Women made up 61% of underemployed part-time workers, compared with 66% in September 2005. Of those underemployed part-time workers who were women, just over half (157,600 or 53%) were looking for more hours in the reference week or within four weeks.

The median duration of the current period of insufficient work for underemployed part-time workers was 26 weeks. Over one-third (34%) of underemployed part-time workers experienced 52 weeks or more of insufficient work.

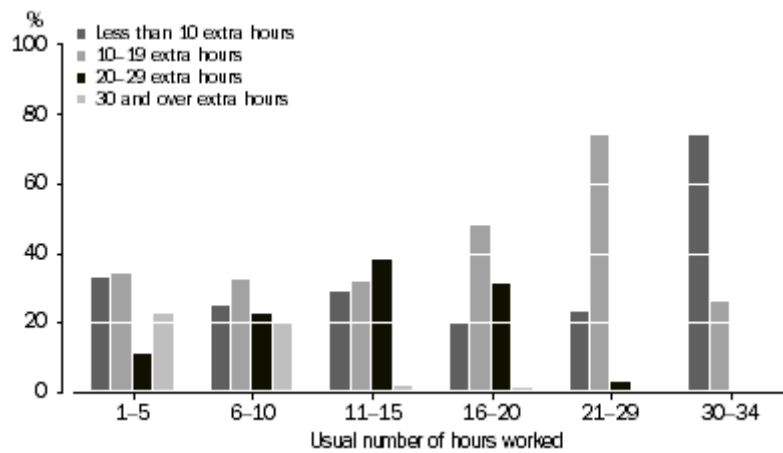
Of underemployed part-time workers:

- 44% would prefer to work 10-19 extra hours per week
- 30% would prefer to work less than 10 extra hours per week
- 19% would prefer to work 20-29 extra hours per week; and
- 7% would prefer to work an additional 30 hours or more per week.

The mean preferred number of extra hours each week for underemployed part-time workers was 14.4 hours. Men would prefer to work an average of 15.5 extra hours compared with an average of 13.7 extra hours for women. The mean preferred number of extra hours was lowest for people aged 15-19 years (13.3 hours).

The number of additional hours preferred by part-time workers varied with the number of hours they usually worked. Generally, those usually working fewer hours wanted a greater number of additional hours. However, many did not want to work full-time hours. For example, 78% of those working 1-5 hours a week wanted fewer than 30 additional hours.

Underemployed part-time workers, preferred number of extra hours



Underemployed part-time workers who looked for work with more hours were asked to report their main difficulty in finding work with more hours. The most commonly reported main difficulty in September 2006 was 'no vacancies in line of work' (20%). A further 10% reported 'unsuitable hours' as their main difficulty.

The most common steps taken to find work with more hours were 'contacted prospective employers' (61%), 'looked in newspapers' (58%) and 'asked current employer for more work' (58%).

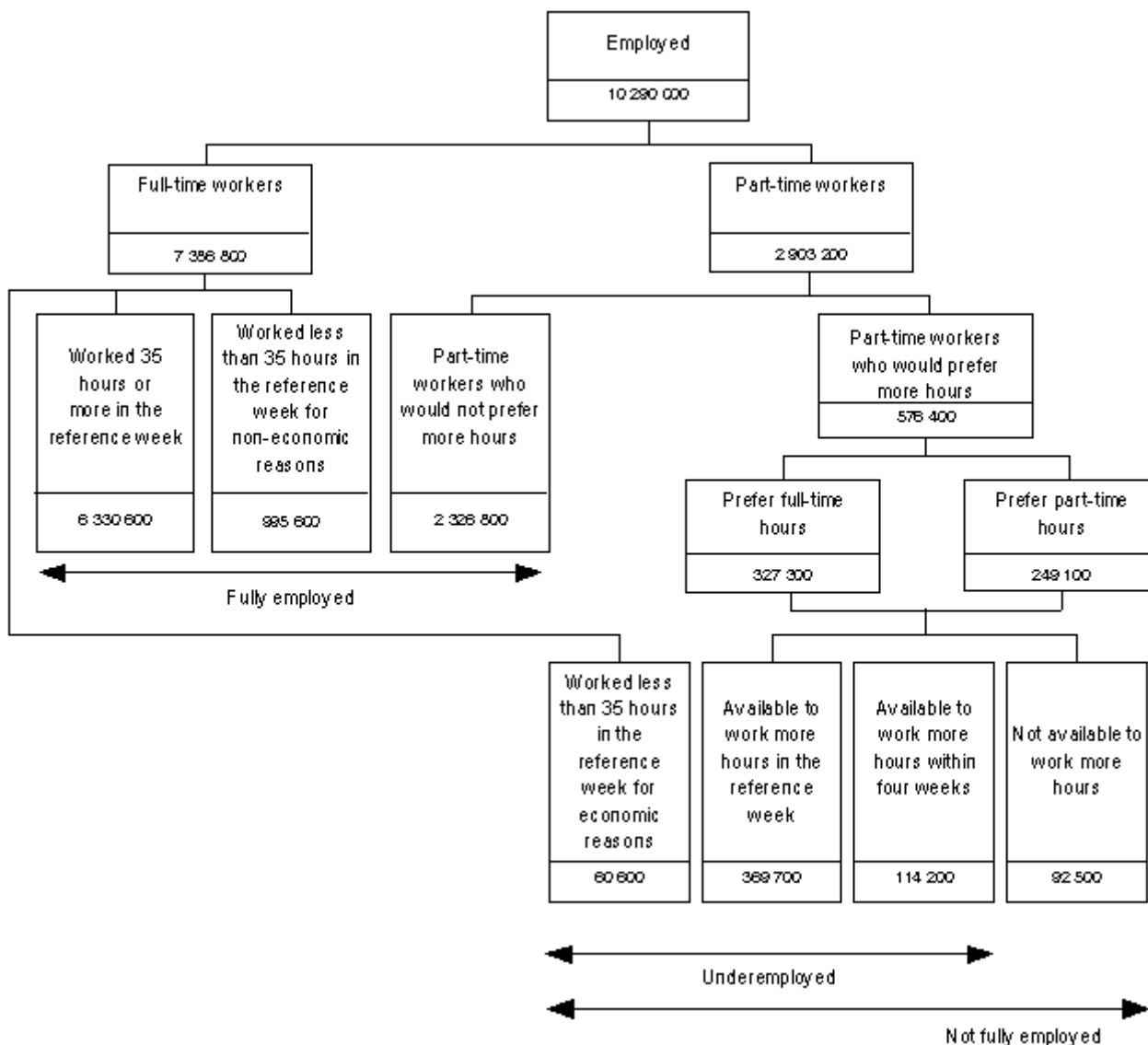
Conceptual Framework

CONCEPTUAL FRAMEWORK

The ABS conceptual framework for underemployment separates employed people into two mutually exclusive groups:

- workers who are fully employed
- workers who are not fully employed, comprising:
 - part-time workers who would prefer to work more hours
 - full-time workers who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available).

Fully employed workers comprise: employed people who worked full-time during the reference week (includes people who usually work part-time); employed people who usually work full-time but worked part time in the reference week for non-economic reasons (including illness or injury, leave, holiday or flextime, and personal reasons); and part-time workers (usually work part-time and did so in the reference week) who would not prefer additional hours of work.



The ABS underemployment framework classifies people who are not fully employed into a number of groups based on whether they are available to start work with more hours. The framework separately identifies part-time workers who would prefer full-time hours and those who would prefer more part-time hours. These people are further classified according to whether they were available to start extra work (either in the reference week or in the four weeks subsequent to the survey).

People who usually work full-time, but worked part-time in the reference week for economic reasons, are separately identified in the underemployment framework. It is assumed that these people would prefer to work full-time in the reference week and would have been available to do so.

DEFINITION OF UNDEREMPLOYMENT

The ABS definition of the underemployed is consistent with the International Labour Organisation (ILO) definition of time-related underemployment adopted in 1998. According to this definition time-related underemployment exists when the hours of work of an employed person are below a threshold, and are insufficient in relation to an alternative employment situation in which the person is willing and available to engage. More specifically, people in time-related underemployment comprise all employed people (as

defined) who satisfy the following three criteria:

- availability to work additional hours, within a specified subsequent period
- willingness to work additional hours - the ILO recommends that those who have actively sought to work additional hours should be distinguished from those who have not
- worked less than a threshold (determined according to national circumstances) relating to working time - the ABS underemployment framework uses a threshold (35 hours in the reference week) based on the boundary between full-time and part-time work.

UNDEREMPLOYED WORKERS SURVEY

The Underemployed Workers Survey is the primary ABS data source on underemployment. It provides a wide range of information about underemployed workers, including information on the number of hours usually worked, number of preferred hours, steps taken to find work with more hours, and difficulties finding work with more hours. Summary information on underemployed workers is also collected in the Labour Force Survey (LFS) on a quarterly basis.

About this Release

Provides information on visible underemployment. Persons who worked less than 35 hours in the week prior to the survey who would have preferred to work more hours were asked about whether they were looking for work with more hours, available to start work with more hours, and their experience in looking for work with more hours. Other information includes, the duration of the current period of insufficient work, and the number of extra hours preferred. Estimates can be cross-classified by labour force demographics such as State, sex, age, marital status and birthplace.

Data for September 1994 and September 1995 are available as a standard data service (6265.0.40.001).

Explanatory Notes

Explanatory Notes

EXPLANATORY NOTES

INTRODUCTION

1 The statistics in this publication were compiled from data collected in the Underemployed Workers Survey conducted throughout Australia in September 2006 as a supplement to the Australian Bureau of Statistics (ABS) monthly Labour Force Survey (LFS). Respondents to the monthly LFS who fell within the scope of the supplementary survey were asked further

questions.

2 The publication **Labour Force, Australia** (cat. no. 6202.0) contains information about survey design, sample redesign, scope, coverage and population benchmarks relevant to the monthly LFS, which also apply to supplementary surveys. It also contains definitions of demographic and labour force characteristics, and information about telephone interviewing relevant to both the monthly LFS and supplementary surveys.

3 From April 2001 the LFS has been conducted using a redesigned questionnaire containing additional questions and some minor definitional changes. These changes also affect the supplementary surveys. For further details, see **Information Paper: Implementing the Redesigned Labour Force Survey Questionnaire** (cat. no. 6295.0) and **Information Paper: Questionnaires Used in the Labour Force Survey** (cat. no. 6232.0).

CONCEPTS, SOURCES AND METHODS

4 The conceptual framework used in Australia's LFS aligns closely with the standards and guidelines set out in the Resolutions of the International Conference of Labour Statisticians. Descriptions of the underlying concepts and structure of Australia's labour force statistics, and the sources and methods used in compiling these estimates, are presented in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001) which is available on the ABS web site <<https://www.abs.gov.au>> (Methods, Classifications, Concepts & Standards).

SCOPE

5 The scope of the LFS is restricted to people aged 15 years and over and excludes the following people:

- members of the permanent defence forces
- certain diplomatic personnel of overseas governments, customarily excluded from the census and estimated populations
- overseas residents in Australia
- members of non-Australian defence forces (and their dependants).

6 Students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons are excluded from all supplementary surveys.

7 This supplementary survey was conducted in both urban and rural areas in all states and territories, but excluded approximately 120,000 people living in very remote parts of Australia who would otherwise have been within the scope of the survey. The exclusion of these people will have only a minor impact on any aggregate estimates that are produced for individual states and territories, except the Northern Territory where such people account for around 23% of the population.

COVERAGE

8 The estimates in this publication relate to people covered by the survey in September 2006. In the LFS, coverage rules are applied which aim to ensure that each person is associated with only one dwelling and hence has only one chance of selection in the survey. See **Labour Force, Australia** (cat. no. 6202.0) for more details.

SAMPLE SIZE

9 Supplementary surveys are not always conducted on the full LFS sample. Since August 1994 the sample for supplementary surveys has been restricted to no more than seven-eighths of the LFS sample.

10 The initial sample for the September LFS consisted of 37,612 private dwelling households and special dwelling units. Of the 33,885 private dwelling households and special dwelling units that remained in the survey after sample loss (e.g. households selected in the survey which had no residents in scope for the LFS, vacant or derelict dwellings and dwellings under construction), approximately 31,520 or 93.0% were fully responding to the Underemployed Workers Survey. The number of completed interviews obtained from these private dwelling households and special dwelling units (after taking into account scope, coverage and subsampling exclusions) was 34,372.

RELIABILITY OF THE ESTIMATES

11 Estimates in this publication are subject to sampling and non-sampling errors:

- Sampling error is the difference between the published estimate and the value that would have been produced if all dwellings had been included in the survey. For more information see the Technical Note.
- Non-sampling errors are inaccuracies that occur because of imperfections in reporting by respondents and interviewers, and errors made in coding and processing data. These inaccuracies may occur in any enumeration, whether it be a full count or a sample. Every effort is made to reduce the non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers, and effective processing procedures.

SEASONAL FACTORS

12 The estimates are based on information collected in the survey month and, due to seasonal factors, may not be representative of other months of the year.

CLASSIFICATIONS USED

13 Country of birth data are classified according to the **Standard Australian Classification of Countries (SACC), 1998** (cat. no. 1269.0).

14 Educational attainment data are classified according to **Australian Standard Classification of Education (ASCED)** (cat. no. 1272.0). See **Appendix 1** for more information.

COMPARABILITY OF TIME SERIES

15 Revisions are made to population benchmarks for the LFS after each five-yearly Census of Population and Housing. The last such revision was made in February 2004 to take account of the results of the 2001 Census of Population and Housing. Estimates from supplementary surveys conducted from and including February 2004 are based on the revised population benchmarks.

16 Prior to September 1994, part-time workers who would prefer more hours of work were asked whether they were available to start work with more hours within the subsequent four weeks. From September 1994, an additional question was added to also determine their availability to start work with more hours during the reference week. This question was added to the survey so that estimates of underemployment could be more easily aligned with the then current International Labour Organisation (ILO) recommendations on underemployment.

17 As part of the redesign in 2001 of the LFS questionnaire, people who were on short-term unpaid leave initiated by the employer, are now classified as employed. This approach is consistent with ILO recommendations on formal job attachment. Analysis of data from the LFS shows that many of these people usually worked part time, and that a number of these had a preference to work more hours. However, overall, these people contribute only marginally to the change in part-time workers who would prefer more hours.

18 From July 2004, a change has been made to the category 'considered too young or too old by employers' for the items 'all difficulties in finding work with more hours' and 'main difficulty in finding work with more hours'. The category has been split into 'considered too young by employers' and 'considered too old by employers'.

COMPARABILITY WITH MONTHLY LFS STATISTICS

19 Due to differences in the scope and sample size of this supplementary survey and that of the monthly LFS, the estimation procedure may lead to some small variations between labour force estimates from this survey and those from the monthly LFS.

COMPARABILITY WITH ILO DEFINITIONS

20 Comparability of the concepts and definitions used in the Underemployed Workers Survey are discussed in the Conceptual Framework on page 4. More detailed discussion is included in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001), Chapter 5, which is available on the ABS web site <<https://www.abs.gov.au>> (Methods, Classifications, Concepts & Standards).

PREVIOUS SURVEYS

21 The Underemployed Workers Survey was conducted in May 1985, 1988 and 1991. In 1994, the survey became an annual survey, collected each September. Results of previous surveys were published in: **Underemployed Workers, Australia** (cat. no. 6265.0); and the standard data service **Underemployed Workers, Australia** (cat. no. 6265.0.40.001) for 1994 and 1995.

NEXT SURVEY

22 The ABS plans to conduct this survey again in September 2007.

ACKNOWLEDGMENT

23 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the **Census and Statistics Act 1905**.

RELATED PUBLICATIONS

24 ABS publications which may be of interest include:

- **Job Search Experience, Australia** (cat. no. 6222.0)
- **Labour Force, Australia** (cat. no. 6202.0)
- **Labour Force Experience, Australia** (cat. no. 6206.0)
- **Labour Mobility, Australia** (cat. no. 6209.0)
- **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001)
- **Persons Not in the Labour Force, Australia** (cat. no. 6220.0)
- **Working Arrangements, Australia** (cat. no. 6342.0)
- **Australian Labour Market Statistics** (cat. no. 6105.0)
- **Barriers and Incentives to Labour Force Participation** (cat. no. 6239.0)

25 Current publications and other products released by the ABS are listed in the **Catalogue of Publications and Products** (cat. no. 1101.0). The Catalogue is available from any ABS office or the ABS web site <<https://www.abs.gov.au>>. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

Glossary

GLOSSARY

Centrelink

Centrelink is a statutory authority responsible for delivering a range of Australian government services, including registering of people for job search assistance and income support.

Contributing family worker

A person who works without pay in an economic enterprise operated by a relative.

Duration of insufficient work

The duration of insufficient work is the length of time underemployed workers have been working less than 35 hours a week. As periods of insufficient work are recorded in full weeks and rounded down, this results in a slight understatement of duration.

Economic reasons

Economic reasons for full-time workers having worked less than 35 hours in the reference week include:

- there was no work or not enough work available, e.g. due to material shortages
- they were stood down
- they were on short time.

Employed

People aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
 - away from work for less than four weeks up to the end of the reference week; or
 - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four-week period to the end of the reference week; or
 - away from work as a standard work or shift arrangement; or
 - on strike or locked out; or
 - on workers' compensation and expected to return to their job; or
- were employers or own account workers who had a job, business or farm, but were not at work.

Employee

A person who works for a public or private employer and receives remuneration in wages, salary, a retainer fee from their employer while working on a commission basis, tips, piece-rates, or payment in kind; or a person who operates his or her own incorporated enterprise with or without hiring employees.

Employer

A person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade, and hires one or more employees.

Full-time workers

Employed people who usually worked 35 hours or more a week (in all jobs) or others who, although usually worked less than 35 hours a week, worked 35 hours or more during the reference week.

Fully employed workers

Employed people who:

- worked full time during the reference week (including people who usually work part time but worked full time in the reference week); or
- usually work full time but worked less than 35 hours in the reference week for non-economic reasons (such as illness or injury, leave holiday or flextime, or personal reasons); or
- part-time workers who would not prefer to work additional hours.

Labour force

The civilian population aged 15 years and over can be split into two mutually exclusive groups: the labour force (employed and unemployed people) and persons not in the labour force.

Labour force underutilisation rate

The unemployed plus the underemployed, expressed as a percentage of the labour force.

Level of highest educational attainment

Level of highest educational attainment identifies the highest achievement a person has attained in any area of study. It is not a measurement of the relative importance of different

fields of study but a ranking of qualifications and other educational attainments regardless of the particular area of study or the type of institution in which the study was undertaken. See [Appendix 1](#) for an explanation of how highest level is derived.

Looking for work with more hours

Looked for work with more hours at some time during the four weeks up to the end of the reference week.

Mean duration of insufficient work

The mean duration of insufficient work is obtained by dividing the aggregate number of weeks a group has had insufficient work by the number of people in that group.

Mean preferred number of extra hours

The mean preferred number of extra hours is obtained by dividing the total preferred number of extra hours reported by a group by the number of people in that group.

Median duration of insufficient work

The median duration of insufficient work is obtained by dividing underemployed workers into two equal groups, one comprising people whose duration of insufficient work is above the median, and the other comprising people whose duration is below it.

Non-economic reasons

Non-economic reasons for full-time workers having worked less than 35 hours in the reference week include:

- holiday, flextime or study leave
- own illness or injury or sick leave
- standard work arrangements, shift work or rostered day(s) off
- on strike, locked out or took part in an industrial dispute
- bad weather or plant breakdown
- began, left or lost job during the reference week
- personal reasons.

Own account worker

A person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade, and hires no employees.

Part-time workers

Employed people who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work during the reference week.

Preferred number of extra hours

The number of extra hours a week an underemployed worker would have preferred to work.

Preferred total number of hours

The total number of hours per week an underemployed worker would prefer to work.

Reference week

The week preceding the week in which the interview was conducted.

Status in employment

Employed people classified by whether they were employees, employers, own account workers, or contributing family workers.

Steps taken to find work with more hours

All steps taken to find work with more hours during the four weeks up to the end of the reference week.

Underemployed workers

Underemployed workers are employed people who would prefer, and are available for, more hours of work than they currently have. They comprise:

- part-time workers who would prefer to work more hours and were available to start work with more hours, either in the reference week or in the four weeks subsequent to the survey
- full-time workers who worked part-time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people would prefer to work full time in the reference week and would have been available to do so.

Underemployment rate

The number of underemployed workers expressed as a percentage of the labour force.

Unemployment rate

The number of unemployed persons expressed as a percentage of the labour force.

Usual number of hours

The number of hours usually worked in a week.

Abbreviations

ABBREVIATIONS

The following symbols and abbreviations are used in this publication:

ABS	Australian Bureau of Statistics
ASCED	Australian Standard Classification of Education
CAI	computer assisted interviewing
ILO	International Labour Organization
LFS	Labour Force Survey
n.f.d.	not further defined
OMIE	owner manager of incorporated enterprise
RSE	relative standard error
SACC	Standard Australian Classification of Countries
SE	standard error

Educational Attainment (Appendix 1)

APPENDIX 1 EDUCATIONAL ATTAINMENT

CLASSIFICATION OF EDUCATION

In 2001, the **ABS Classification of Qualifications (ABSCQ)** (cat. no. 1262.0) was replaced by the **Australian Standard Classification of Education (ASCED)** (cat. no.1272.0). The ASCED is a national standard classification which can be applied to all sectors of the Australian education system including schools, vocational education and training and higher education. ASCED replaces a number of classifications previously used in administrative and statistical systems, including the ABSCQ. The ASCED comprises two classifications: Level of Education and Field of Education.

Level of Highest Educational Attainment can be derived from information on Highest Year of

School Completed and Level of Highest Non-school Qualification. The derivation process determines which of the 'non-school' or 'school' attainments will be regarded as the highest. Usually the higher ranking attainment will be self-evident, but in some cases some Secondary Education is regarded, for the purposes of obtaining a single measure, as higher than some Certificate level attainments.

The following decision table is used to determine which of the responses to questions on Highest Year of School Completed (coded to ASCED Broad Level 6) and Level of Highest Non-school Qualification (coded to ASCED Broad Level 5) will be regarded as the highest. It is emphasised that this table was designed for the purpose of obtaining a single value for the output variable Level of Highest Educational Attainment and is not intended to convey any other ordinality.

Decision Table: Level of Highest Educational Attainment							
ASCED LEVEL OF EDUCATION CODES	Certificate n.f.d. (500)	Certificate III or IV n.f.d. (510)	Certificate IV (511)	Certificate III (514)	Certificate I or II n.f.d. (520)	Certificate II (521)	Certificate I (524)
Secondary Education n.f.d. (600)	Certificate n.f.d.	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Certificate I or II n.f.d.	Certificate II	Certificate I
Senior Secondary Education n.f.d. (610)	Senior Secondary n.f.d.	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Senior Secondary n.f.d.	Senior Secondary n.f.d.	Senior Secondary n.f.d.
Year 12 (611)	Year 12	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Year 12	Year 12	Year 12
Year 11 (613)	Year 11	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Year 11	Year 11	Year 11
Junior Secondary Education n.f.d. (620)	Certificate n.f.d.	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Certificate I or II n.f.d.	Certificate II	Certificate I
Year 10 (621)	Year 10	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Year 10	Certificate II	Year 10
Year 9 (622)	Certificate n.f.d.	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Certificate I or II n.f.d.	Certificate II	Certificate I
Year 8 (623)	Certificate n.f.d.	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Certificate I or II n.f.d.	Certificate II	Certificate I
Year 7 (624)	Certificate n.f.d.	Certificate III or IV n.f.d.	Certificate IV	Certificate III	Certificate I or II n.f.d.	Certificate II	Certificate I

The decision table is also used to rank the information provided in a survey about the qualifications and attainments of a single individual. It does not represent any basis for comparison between differing qualifications. For example, a person whose Highest Year of School Completed was Year 12, and whose Level of Highest Non-school Qualification was a Certificate III, would have those responses crosschecked on the decision table and would as a result have their Level of Highest Educational Attainment output as Certificate III. However, if the same person answered 'Certificate' to the highest non-school qualification question, without offering any further detail, it would be crosschecked against Year 12 on the decision table as 'Certificate not further defined'. The output would then be 'Year 12'. The decision table, therefore, does not necessarily imply that one qualification is 'higher' than the other.

Populations And Data Items List (Appendix 2)

APPENDIX 2 POPULATIONS AND DATA ITEMS LIST

DATA AVAILABLE ON REQUEST

The ABS has a range of data available on request from the Underemployed Workers Survey. This section lists the data items and populations which relate to the survey. More detailed breakdowns of some data items may also be available on request.

The population(s) for a particular data item refers to the person in the survey to whom the data item relates.

For more information about ABS data available on request, contact Sarah Dexter on Canberra (02) 6252 7246, or by facsimile on (02) 6252 7512, or by email to <sarah.dexter@abs.gov.au>.

Population 1:

Employed persons.

Population 2:

Full-time workers.

Population 3:

Part-time workers.

Population 4:

Part-time workers who would prefer more hours.

Population 5:

Part-time workers who would prefer more hours who had been looking for work with more hours or were available to start work with more hours in the reference week or within four weeks.

Population 6:

Underemployed part-time workers.

Population 7:

Underemployed workers.

Data items	Populations
1 State or territory of usual residence New South Wales Victoria Queensland South Australia Western Australia Tasmania Northern Territory Australian Capital Territory	All
2 Area of usual residence State capital city Balance of state/territory	All
3 Region of usual residence Standard labour force dissemination regions	All
4 Sex Males Females	All
5 Marital status Married Not married	All
6 Relationship in household Family member Husband, wife or partner With dependents Without dependents Lone parent With dependents Without dependents Dependent student Non-dependent child Other related individual Non-family member Lone person Not living alone Relationship not determined	All
7A Country of birth of person and Year of arrival in Australia Born in Australia Born overseas Arrived before 1971 Arrived 1971-1980 Arrived 1981-1990 Arrived 1991-2000 Arrived 2001 to survey date	All
7B Country of birth Born in Australia Born overseas Oceania and Antarctica North-West Europe Southern and Eastern Europe North Africa and the Middle East South-East Asia North-East Asia Southern and Central Asia Americas Sub-Saharan Africa	All
8 Age group (years) 15-19 20-24 25-34 35-44 45-54 55-59	All

60-64	
65-69	
70 and over	
Note: Single years were collected	
9A Underemployment status	7
Worked less than 35 hours in the reference week for economic reasons	
Part-time workers who would prefer more hours who were available to start work with more hours in the reference week or within four weeks	
Looking and available to start	
Not looking but available to start	
9B Whether looking and/or available	4-6
Had been looking for work with more hours	
Looking and available to start	
Looking and available in the reference week	
Looking and not available in the reference week but available within four weeks	
Looking and not available to start	
Had not been looking for work with more hours	
Not looking but available to start	
Not looking but available in the reference week	
Not looking and not available in the reference week but available within four weeks	
Not looking and not available to start	
9C Whether available and/or looking	4-6
Available to start work with more hours	
Available in the reference week	
Looking	
Not looking	
Available within four weeks (but not in the reference week)	
Looking	
Not looking	
Not available to start work with more hours	
Looking	
Not looking	
10 Full-time or part-time status	All
Employed persons	
Full-time workers	
Worked 35 hours or more in the reference week	
Worked less than 35 hours in the reference week	
For non-economic reasons	
For economic reasons	
Part-time workers	
Would not prefer to work more hours	
Would prefer to work more hours	
Prefers more part-time hours	
Prefers full-time hours	
11 Whether fully employed	All
Fully employed	
Part-time workers who would prefer more hours and persons who worked less than 35 hours in the reference week for economic reasons	
12 Status in employment	All
Employee	
Employer	
Own account worker	
Contributing family worker	
13 Number of hours worked in the reference period	4-7
0-5 hours	
6-10 hours	
11-15 hours	
16-20 hours	
20-29 hours	
30-34 hours	
35 hours and over	
14 Type of insufficient work	4-6
Full-time	
Part-time	

15	Duration of current period of insufficient work	4-7
	1 week and under 4 weeks	
	4 weeks and under 13 weeks	
	13 weeks and under 52 weeks	
	52 weeks and over	
16	Level of highest educational attainment	4-7
	Postgraduate Degree	
	Graduate Diploma and Graduate Certificate	
	Bachelor Degree	
	Advanced Diploma and Diploma	
	Certificate III and IV	
	Certificate I and II	
	Certificate not further defined	
	Year 12	
	Year 11	
	Year 10 or below	
	Other education	
	Level not determined	
	No educational attainment	
17	Whether would move interstate if offered a suitable job	4-7
	Would move interstate	
	Would not move interstate	
	Might move interstate	
	Did not know	
18	Whether would move intrastate if offered a suitable job	4-7
	Would move intrastate	
	Might move intrastate	
	Would not move intrastate	
	Did not know	
19	Whether would prefer to change occupation to work more hours	4-7
	Would prefer to change occupation	
	Would prefer not to change occupation	
	No preference	
20	Whether would prefer to change employer to work more hours	4-7
	Would prefer to change employer	
	Would prefer not to change employer	
	No preference	
21	All steps taken to find work with more hours in the last four weeks	4-6
	Asked current employer for more work	
	Contacted prospective employers	
	Registered with Centrelink	
	Checked Centrelink touchscreens	
	Checked factory noticeboards	
	Contacted an employment agency	
	Looked in newspapers	
	Searched Internet sites	
	Answered a newspaper advertisement for a job	
	Advertised or tendered for work	
	Contacted friends or relatives	
	Other steps taken to find work	
	Had not been looking for work with more hours	
22	Whether registered with Centrelink	4-6
	Registered with Centrelink for job search assistance	
	Not registered with Centrelink for job search assistance	
	Had not been looking for work with more hours	
23	Preferred number of extra hours	4-6
	Less than 10 hours	
	10-19 hours	
	20-29 hours	
	30 hours and over	
24	Main difficulty in finding work with more hours	4-6
	Had been looking for work with more hours	
	Own ill health or disability	
	Considered too young by employers	
	Considered too old by employers	
	Unsuitable hours	

	Too far to travel/transport problems	
	Lacked necessary skills or education	
	Language difficulties	
	Insufficient work experience	
	No vacancies in line of work	
	Too many applicants for available jobs	
	No vacancies at all	
	Difficulties with ethnic background	
	Difficulties in finding child care	
	Other family responsibilities	
	Other difficulties	
	No difficulties reported	
	Had not been looking for work with more hours	
25	Usual number of hours worked	4-6
	1-5 hours	
	6-10 hours	
	11-15 hours	
	16-20 hours	
	21-29 hours	
	30-34 hours	
26	Preferred total number of hours	4-6
	Less than 30 hours	
	30-34 hours	
	35-39 hours	
	40 hours and over	
27	Owner manager of incorporated enterprise (OMIE) status	All
	Employee (not OMIE)	
	Owner manager of incorporated enterprise	
	Owner manager of unincorporated enterprise	
	Contributing family worker	

Supplementary Surveys (Appendix 3)

APPENDIX 3 SUPPLEMENTARY SURVEYS

SUPPLEMENTARY SURVEYS

The Monthly Population Survey program collects data on particular aspects of the labour force. The following is an historical list of supplementary surveys to the monthly labour force surveys. Data from these surveys are available on request and can be obtained by contacting the ABS.

	cat. no.	Frequency	Latest issue
Barriers and Incentives to Labour Force Participation, Australia	6239.0	Biennial	2004-2005
Career Experience, Australia	6254.0	Discontinued	Final issue 2002
Career Paths of Persons with Trade Qualifications, Australia	6243.0	Discontinued	Final issue 1993
Child Care, Australia	4402.0	Irregular	June 2005
Child Employment, Australia	6211.0	Irregular	June 2006
Education and Work, Australia	6227.0	Annual	May 2006
Employee Earnings, Benefits, and Trade Union Membership, Australia	6310.0	Annual	August 2005
Forms of Employment, Australia	6359.0	Irregular	November 2004
Job Search Experience, Australia	6222.0	Annual	July 2006
Labour Force Experience, Australia	6206.0	Biennial	February 2005

Labour Force Status and Educational Attainment, Australia	6235.0	Discontinued	Final issue 1994
Labour Force Status and Other Characteristics of Families, Australia(a)	6224.0	Discontinued	Final issue 2000
Labour Force Status and Other Characteristics of Migrants, Australia	6250.0	Irregular	November 2004
Labour Mobility, Australia	6209.0	Biennial	February 2006
Locations of Work, Australia	6275.0	Irregular	November 2005
Multiple Jobholding, Australia(b)	6216.0	Irregular	August 1997
Participation in Education, Australia	6272.0	Discontinued	Final issue 1999
Persons Not in the Labour Force, Australia	6220.0	Annual	September 2005
Persons Who had Re-entered the Labour Force, Australia	6264.0.40.001	Discontinued	Final issue 1995
Persons Who Have Left the Labour Force, Australia	6267.0.40.001	Discontinued	Final issue 1994
Retirement and Retirement Intentions, Australia	6238.0	Biennial	2004-2005
Retrenchment and Redundancy, Australia	6266.0	Discontinued	Final issue 2001
Successful and Unsuccessful Job Search Experience, Australia	6245.0	Discontinued	Final issue 2000
Superannuation, Australia	6319.0	Discontinued	Final issue 1995
Underemployed Workers, Australia	6265.0	Annual	September 2005
Working Arrangements, Australia	6342.0	Irregular	November 2003
Work-Related Injuries, Australia	6324.0	Irregular	2005-06

(a) Latest data available June 2006, from the ABS web site cat. no. 6224.0.55.001 annual, or on request.

(b) Latest data available on request July 2001.

Data Quality (Technical Note)

TECHNICAL NOTE DATA QUALITY

INTRODUCTION

1 Since the estimates in this publication are based on information obtained from occupants of a sample of dwellings, they are subject to sampling variability. That is, they may differ from those estimates that would have been produced if all dwellings had been included in the survey. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied by chance because only a sample of dwellings was included. There are about two chances in three (67%) that a sample estimate will differ by less than one SE from the number that would have been obtained if all dwellings had been included, and about 19 chances in 20 (95%) that the difference will be less than two SEs. Another measure of the likely difference is the relative standard error (RSE), which is obtained by expressing the SE as a percentage of the estimate.

2 Due to space limitations, it is impractical to print the SE of each estimate in the publication. Instead, a table of SEs is provided to enable readers to determine the SE for an estimate from the size of that estimate (see table T1). The SE table is derived from a mathematical model, referred to as the 'SE model', which is created using data from a number of past

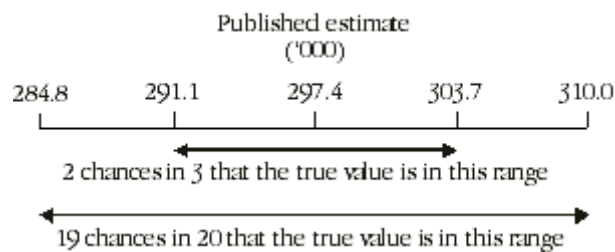
Labour Force Surveys. It should be noted that the SE model only gives an approximate value for the SE for any particular estimate, since there is some minor variation between SEs for different estimates of the same size.

CALCULATION OF STANDARD ERROR

3 An example of the calculation and the use of SEs in relation to estimates of persons is as follows. Table 5 shows the estimated number of female underemployed part-time workers was 297,400. Since this estimate is between 200,000 and 300,000, table T1 shows that the SE for Australia will lie between 5,300 and 6,350 and can be approximated by interpolation using the following general formula:

$$\begin{aligned}
 &SE\ of\ estimate \\
 &= lower\ SE + \left(\left(\frac{size\ of\ estimate - lower\ estimate}{upper\ estimate - lower\ estimate} \right) \times (upper\ SE - lower\ SE) \right) \\
 &= 5,300 + \left(\left(\frac{297,400 - 200,000}{300,000 - 200,000} \right) \times (6,350 - 5,300) \right) \\
 &= 6,300\ (rounded\ to\ the\ nearest\ 100)
 \end{aligned}$$

4 Therefore, there are about two chances in three that the value that would have been produced if all dwellings had been included in the survey will fall within the range 291,100 to 303,700 and about 19 chances in 20 that the value will fall within the range 284,800 to 310,000. This example is illustrated in the following diagram.



5 In general, the size of the SE increases as the size of the estimate increases. Conversely, the RSE decreases as the size of the estimate increases. Very small estimates are thus subject to such high RSEs that their value for most practical purposes is unreliable. In the tables in this publication, only estimates with RSEs of 25% or less are considered reliable for most purposes. Estimates with RSEs greater than 25% but less than or equal to 50% are preceded by an asterisk (e.g.*3.2) to indicate they are subject to high SEs and should be used with caution. Estimates with RSEs of greater than 50%, preceded by a double asterisk (e.g.**0.3), are considered too unreliable for general use and should only be used to aggregate with other estimates to provide derived estimates with RSEs of less than 25%.

MEANS AND MEDIANS

6 The RSEs of estimates of mean duration of insufficient work, median duration of insufficient work and mean preferred number of extra hours are obtained by first finding the RSE of the estimate of the total number of persons contributing to the mean or median (see table T1) and then multiplying the resulting number by the following factors:

- mean duration of insufficient work: 1.6
- median duration of insufficient work: 2.5
- mean preferred number of extra hours: 0.7

7 The following is an example of the calculation of SEs where the use of a factor is required. Table 5 shows that the estimated number of male underemployed part-time workers was 186,500 with a median duration of insufficient work of 24 weeks. The SE of 186,500 can be calculated from table T1 (by interpolation) as 5,100. To convert this to an RSE we express the SE as a percentage of the estimate or $5,100/186,500 = 2.7\%$.

8 The RSE of the estimate of median duration of insufficient work is calculated by multiplying this number (2.7%) by the appropriate factor shown in paragraph 6 (in this case 2.5): $2.7 \times 2.5 = 6.8\%$. The SE of this estimate of median duration of insufficient work is therefore 6.8% of 24, i.e. about 2 (rounded to the nearest whole week). Therefore, there are two chances in three that the median duration of insufficient work for males that would have been obtained if all dwellings had been included in the survey would have been within the range 22-26 weeks, and about 19 chances in 20 that it would have been within the range 20-28 weeks.

PROPORTIONS AND PERCENTAGES

9 Proportions and percentages formed from the ratio of two estimates are also subject to sampling errors. The size of the error depends on the accuracy of both the numerator and the denominator. A formula to approximate the RSE of a proportion is given below. This formula is only valid when x is a subset of y.

$$RSE\left(\frac{x}{y}\right) = \sqrt{[RSE(x)]^2 - [RSE(y)]^2}$$

10 Considering the example from paragraph 3, of the 297,400 female underemployed part-time workers, 102,800 or 34.6% had insufficient work for 52 weeks and over. The SE of 102,800 may be calculated by interpolation as 4,000. To convert this to an RSE we express the SE as a percentage of the estimate, or $4,000/102,800 = 3.9\%$. The SE for 297,400 was calculated previously as 6,300, which converted to an RSE is $6,300/297,400 = 2.1\%$. Applying the above formula, the RSE of the proportion is:

$$RSE = \sqrt{(3.9)^2 - (2.1)^2} = 3.3\%$$

11 Therefore, the SE for the proportion of females who have a current period of insufficient work of 52 weeks or more is 1.1 percentage points $(= (34.6/100) \times 3.3)$. Therefore, there are about two chances in three that the proportion of females who have a current period of insufficient work of 52 weeks or more was between 33.5% and 35.7% and 19 chances in 20 that the proportion is within the range 32.4% to 36.8%.

DIFFERENCES

12 Published estimates may also be used to calculate the difference between two survey estimates (of numbers or percentages). Such an estimate is subject to sampling error. The sampling error of the difference between two estimates depends on their SEs and the relationship (correlation) between them. An approximate SE of the difference between two estimates (x-y) may be calculated by the following formula:

$$SE(x-y) = \sqrt{[SE(x)]^2 + [SE(y)]^2}$$

13 While this formula will only be exact for differences between separate and uncorrelated characteristics or subpopulations, it is expected to provide a good approximation for all differences likely to be of interest in this publication.

STANDARD ERRORS

T1 STANDARD ERRORS OF ESTIMATES

Size of estimate (persons)	NSW no.	Vic. no.	Qld. no.	SA no.	WA no.	Tas. no.	NT no.	ACT no.	Aust. SE no.	RSE %
100	290	250	250	150	160	100	90	140	100	100.0
200	380	330	330	210	220	140	140	180	180	90.0
300	440	390	390	250	260	180	170	200	240	80.0
500	540	470	470	300	330	220	230	230	350	70.0
700	620	540	540	350	380	260	270	260	430	61.4
1000	710	620	610	400	440	300	320	280	540	54.0
1500	830	730	710	470	520	340	380	320	690	46.0
2000	920	810	790	530	590	370	420	340	820	41.0
2500	1 000	900	850	550	650	400	450	350	900	36.0
3000	1 100	950	900	600	700	400	500	400	1 000	33.3
3500	1 150	1 000	950	650	750	450	500	400	1 100	31.4
4000	1 200	1 050	1 000	700	750	450	500	400	1 200	30.0
5000	1 300	1 150	1 100	750	850	500	550	450	1 300	26.0
7000	1 500	1 300	1 250	850	950	550	700	500	1 550	22.1
10000	1 700	1 500	1 400	950	1 100	650	850	600	1 800	18.0
15000	2 000	1 750	1 600	1 100	1 250	800	1 150	750	2 100	14.0
20000	2 200	1 950	1 800	1 200	1 400	950	1 450	850	2 300	11.5
30000	2 600	2 300	2 050	1 450	1 600	1 250	1 950	1 100	2 650	8.8
40000	2 850	2 550	2 250	1 700	1 750	1 500	2 500	1 350	2 900	7.3
50000	3 100	2 800	2 450	1 900	1 950	1 750	2 950	1 500	3 100	6.2
100000	4 050	3 600	3 400	2 900	3 050	2 600	5 300	2 050	4 000	4.0
150000	4 800	4 350	4 250	3 700	4 100	3 200	7 500	2 350	4 700	3.1
200000	5 550	5 200	5 100	4 400	4 950	3 650	9 700	2 450	5 300	2.7
300000	7 100	6 800	6 800	5 450	6 250	4 300	14 050	2 550	6 350	2.1
500000	9 950	9 300	9 550	6 900	7 950	5 150	..	2 550	8 100	1.6
1000000	14 950	13 700	13 500	9 000	10 050	6 250	..	..	11 600	1.2
2000000	21 350	19 350	16 550	11 000	11 400	..	..	..	17 150	0.9
5000000	31 500	28 550	17 350	13 000	11 500	..	..	..	29 250	0.6
10000000	39 750	36 450	15 250	..	..	..	..	..	39 200	0.4
15000000	..	..	..	..	..	..	..	..	44 050	0.3

.. not applicable

T2 LEVELS AT WHICH ESTIMATES HAVE RELATIVE STANDARD ERRORS OF 25% AND 50%(a)

NSW	Vic.	Qld.	SA	WA	Tas.	NT	ACT	Aust.
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	no.	no.	no.	no.	no.	no.	no.	no.	no.
RSE OF 25%									
Mean duration of current period of insufficient work	11 700	10 400	9 200	4 300	6 000	2 400	3 000	2 000	12 900
Median duration of current period of insufficient work	28 800	24 600	23 600	13 200	14 200	5 700	14 200	6 800	24 900
Mean preferred number of extra hours	3 300	3 200	2 500	1 500	1 800	900	1 100	700	3 000
All other estimates	5 400	4 400	4 100	2 200	2 600	1 300	1 500	1 200	5 500
RSE OF 50%									
Mean duration of current period of insufficient work	3 800	3 400	3 100	1 400	2 000	800	1 000	800	3 700
Median duration of current period of insufficient work	9 500	8 000	8 300	4 600	4 800	2 300	6 200	2 700	8 200
Mean preferred number of extra hours	1 100	1 000	800	500	600	300	300	300	500
All other estimates	1 800	1 400	1 400	700	800	400	400	400	1 200

(a) Refers to the number of people contributing to the estimate.